Multifunction Electronic Load (EBD-A20H)



Release Date 2017-01-01

1. Features

1.1 Battery Capacity Test

This tester is designed for discharging of a wide range of batteries, including NiMH, NiCd, LiPo, LiFe and Pb, as well as the capacity test.

1.2 Portable Power Bank Test

This tester supports charging and discharging of portable power banks, as well as capacity test.

1.3 Power Performance Test

This tester supports performance and aging tests of various kinds of DC power supplies.

2. Specifications

1) Power Supply: DC 12V/1A

2) Voltage Range: 0-30.00V, stepper 0.01V

3) Current Range: 0.10-20.00A, stepper 0.01A (current adjusted automatically according to the power limits)

4) Discharging mode:

DSC-CC: Discharging batteries at a constant current, support testing battery capacity or current of power supplies.

DSC-CP : Discharging batteries at a constant power, for constant power equipment-like use or testing power.

5) Voltage accuracy: between 0-4.5V, 0.003V, ±0.5%, between 4.5-30V, 0.01V, ±0.5%.

6) Current accuracy: 0.20-20.00A, 0.01A, ±0.5%.

7) Capacity detection: < 10Ah,0.001AH; 10-100Ah,0.01Ah; > 100Ah,0.1Ah

8) Discharging power: continuous rating is 180W and instantaneous power could reach 200W

9) Four lines: voltage and current channels separated for high test accuracy

10) LCD Display: voltage, current, time, capacity, power, energy, and etc

11) PC Connection: the tester can connect to a computer through a designated USB-TTL cable (with areial socket) for more functions, like graphs, calibration, firmware upgrade, and test circulation.

3. Connecting patterns

3.1 Testing Ports



The tester has four banana jacks which connect with A+/V+/V-/A-. A+ and A- ports are connected with the positive and negative ends of the test objects, working as the current channel in discharging. V+ and V- ports are connected with the positive and negative ends of the test objects, working as the voltage channel in voltage tests. This way of using four individual cables will help eliminate the effect of wires on the test result and improve the test precision.

3.2 PC Connection

The tester can be connected with a computer through a designated USB-TTL cable (with aerial socket).

3.3 Input Power

The tester works on a power supply of DC 12V, 1A and interface specification of 5.5/2.1 (inside positive and outside negative).

4. Display and setting

4.1 Buttons

SET —— setting knob (rotate to left/right and press)

ON —— start

4.2 Testing interface

CC 00.00V 00.00A
DSC 0000 00.00Ah

The first line shows testing mode (CC/CP), voltage and current. Testing modes include:

CC: in this mode, the tester supports discharging at a constant current. It allows you to set discharging current and cut-off voltage. Discharge stops when voltage in tests reaches below cut-off voltage. Discharge stops automatically when setting time ends. Using this mode you can test output current of power supplies and battery capacity. When testing power supply, you can either choose automatic stop or set cut-off voltage a minimum value to turn off auto stop.

CP: in this mode, the tester supports discharging at a constant rating. It allows you to set discharging power and cut-off voltage. Discharge stops when voltage in tests reaches below cut-off voltage.

The second line shows working state (it shows OFF when the tester stops working and it turns DSC at working), working time (minutes) and capacity (automatically switches between

0000mAh, 00.00Ah and 000.0Ah). Press the "ON" button to start discharging and press one more time to stop working.

A short press on the "SET" knob can switch between power (W) and capacity.

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CC 00.00V 00.00A
DSC 00.0 00.00Wh
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In the halted state press "SET" knob for two seconds or longer to open the setting interface (this function disabled when the tester connects to a computer).

4.3 Setting interface

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DSC-CC 00.00A
00.00V 000Min
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The first line shows testing mode and discharging current. (Discharging current turns discharging power in CP mode).

```
DSC-CP 000 W
00.00V 000Min
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The second line shows cut-off voltage (testing stops automatically when voltage reaches below the set parameter) and the testing time (0-999 minutes, no limitation when it's set 0).

The cursor sets automatically on the testing mode and you can move it to the option you want to change. One press on the "SET" knob to move one step to right. Rotate "SET" to left and right to change the parameter. The parameter will change automatically if it exceeds limitation. Press the "ON" button to switch to next setting option.

After completes settings, press "SET" knob for a long time to save data and return to the upper-level interface. In the testing interface press the "ON" button to start testing.

4.4 Setting examples

1) Setting steps

- Turn on the battery tester.
- Connect battery and you can read the battery voltage on the testing interface on the screen.
- Press "SET" knob for more than two seconds to open the setting interface.
- Set testing parameters.
- Press "SET" knob for more than two seconds to return to testing interface.
- Press "ON" button to start testing.
- When testing completes rotate the knob to left and right to read test results.
- Remove the battery and turn off the tester.

2) Discharging 3.7V LiPo to 2.8V at 10A

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DSC-CC 10.00A
02.80V 000Min
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3) Discharging 12V power at 5A for 60 minutes

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DSC-CC 05.00A
00.00V 060Min
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5. Precautions

1) Positive and negative connections should not be reversed.

2) Always use the tester within the allowed range.

3) PC connection software: EB Tester Software, download it from www.zketech.com.

4) PC connection: follow EB Tester Software User Manual.

5) Technical support: zke2006@163.com

6) Taobao store: zke2006.taobao.com

We always focus on innovation and improvement and will keep upgrading the software. Please frequently visit www.zketech.com to download the latest manuals.